09/266,935

FILE 'HOME' ENTERED AT 13:24:00 ON 05 FEB 2003

=> file reg
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 13:24:07 ON 05 FEB 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 4 FEB 2003 HIGHEST RN 485752-98-5
DICTIONARY FILE UPDATES: 4 FEB 2003 HIGHEST RN 485752-98-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

*** YOU HAVE NEW MAIL ***

=> e methylmorpholine oxide/cn

E1	1	METHYLMORPHINE/CN
E2	1	METHYLMORPHINE O-DEMETHYLASE/CN
E3	0 -->	METHYLMORPHOLINE OXIDE/CN
E4	1	METHYLMUCONOLACTONE .DELTA.-ISOMERASE/CN
E5	1	METHYLMUCONOLACTONE ISOMERASE (RALSTONIA EUTROPHA STRAIN JMP 134 CLONE PRE402 GENE MMLI)/CN
E6	1	METHYLMUREIDOMYCIN E/CN
E7	1	METHYLMUREIODMYCIN F/CN
E8	1	METHYLNADIC ACID ANHYDRIDE/CN
E9	1	METHYLNADIC ANHYDRIDE-TETRAD C COPOLYMER/CN
E10	1	METHYLNADIC ANHYDRIDE-TETRAGLYCIDYLDIAMINODIPHENYLMETHANE-2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL COPOLYMER/CN
E11	1	METHYLNADIC ANHYDRIDE-TRIS(HYDROXYPHENYL)METHANE TRIGLYCIDYL ETHER COPOLYMER/CN
E12	1	METHYLNALORPHINIUM/CN

=> e 4-methylmorpholine-4-oxide?/cn

E1	1	4-METHYLMORPHOLINE N-OXIDE/CN
E2	1	4-METHYLMORPHOLINE OXIDE/CN
E3	0 -->	4-METHYLMORPHOLINE-4-OXIDE?/CN
E4	1	4-METHYLMORPHOLINE-BORANE/CN
E5	1	4-METHYLMORPHOLINEALANE/CN
E6	1	4-METHYLMORPHOLINIUM HEXAFLUOROPHOSPHATE/CN
E7	1	4-METHYLMORPHOLINIUM TETRAFLUOROBORATE/CN
E8	1	4-METHYLMUCONOLACTONE METHYLISOMERASE/CN
E9	1	4-METHYLMUCONOLACTONE METHYLISOMERASE (RALSTONIA EUTROPHA STRAIN JMP134 CLONE PRE402 GENE MMLI)/CN

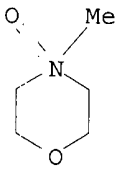
09567863

E10 1 4-METHYLMUCONOLACTONE TRANSPORTER (RALSTONIA EUTROPHA CLONE PRE402 GENE MMLH)/CN
E11 1 4-METHYLMUSCARINE IODIDE/CN
E12 1 4-METHYLMUSCIMOL/CN

=> s e1-e2
1 "4-METHYLMORPHOLINE N-OXIDE"/CN
1 "4-METHYLMORPHOLINE OXIDE"/CN
L1 1 ("4-METHYLMORPHOLINE N-OXIDE"/CN OR "4-METHYLMORPHOLINE OXIDE"/CN)

=> d l1

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 7529-22-8 REGISTRY
CN Morpholine, 4-methyl-, 4-oxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 4-Methylmorpholine 4-oxide
CN **4-Methylmorpholine N-oxide**
CN **4-Methylmorpholine oxide**
CN N-Methylmorpholine N-oxide
CN N-methylmorpholine N-oxide
CN N-Methylmorpholine oxide
CN NMMO
CN NMO
FS 3D CONCORD
MF C5 H11 N O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, PIRA, PROMT, SPECINFO, TOXCENTER, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



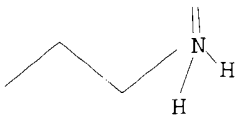
846 REFERENCES IN FILE CA (1962 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
848 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>
Uploading 09266935.str

L2 STRUCTURE UPLOADED

=> d l2
L2 HAS NO ANSWERS
L2 STR

09567863



Structure attributes must be viewed using STN Express query preparation.

=> s ;2
ENTER LOGIC EXPRESSION, QUERY NAME, OR (END):end
SEARCH ENDED BY USER

2 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l2 full
FULL SEARCH INITIATED 13:28:53 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 460810 TO ITERATE

86.8% PROCESSED 400000 ITERATIONS 6 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.04

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 460810 TO 460810
PROJECTED ANSWERS: 6 TO 13

L3 6 SEA SSS FUL L2

=> file caplus
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	161.07	161.28

FILE 'CAPLUS' ENTERED AT 13:29:01 ON 05 FEB 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 5 Feb 2003 VOL 138 ISS 6
FILE LAST UPDATED: 4 Feb 2003 (20030204/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

09567863

=> s l3
L4 3 L3

=> d l4 bib abs hitstr 1-3

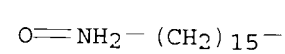
L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2002:754120 CAPLUS
DN 137:274411
TI Antibacterial compositions containing phenolic and/or quaternary ammonium compounds
IN Taylor, Timothy J.; Fox, Priscilla A.; Seitz, E. Phil; Slayton, Michael D.
PA The Dial Corporation, USA
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002076207	A1	20021003	WO 2002-US7792	20020305
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003022941	A1	20030130	US 2001-818366	20010327
PRAI US 2001-818366	A	20010327		

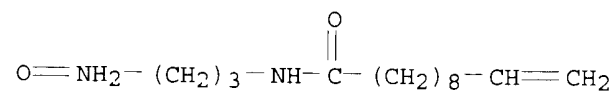
AB An antimicrobial compn. comprises : (a) about 0.05% to about 5% , by wt., of an antibacterial agent selected from the group consisting of a phenolic antibacterial agent, a quaternary ammonium antibacterial agent, or a mixt. thereof; (b) about 1% to about 15% , by wt., of an alkamine oxide surfactant; (c) about 1% to about 10% , by wt., of a nonionic co-surfactant, a cationic co-surfactant, or a mixt. thereof; (d) 0% to about 5% , by wt., of a polymeric thickener; and (e) water, wherein the antibacterial compn. has a pH of about 5.5 to about 7.5, and is free of an anionic surfactant. The compn. has a log redn. against Gram pos. bacteria of at least 2 after 30 s of contact, as measured against Staphylococcus aureus, and a log redn. against Gram neg. bacteria of at least 2.5 after 30 s of contact, as measured against Escherichia coli.

IT **463328-10-1 463328-16-7**
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant in antibacterial compns. contg. phenolic and/or quaternary ammonium compds.)

RN 463328-10-1 CAPLUS
CN 1-Hexadecanamine, N-oxide (9CI) (CA INDEX NAME)



RN 463328-16-7 CAPLUS
CN 10-Undecenamide, N-[3-(oxidoiminio)propyl]- (9CI) (CA INDEX NAME)



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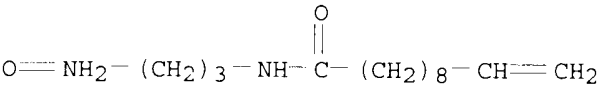

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2002:158206 CAPLUS
DN 136:202867
TI Compositions containing aqueous viscosifying surfactants and methods for applying such compositions in subterranean formations
IN Qu, Qi; Nelson, Erik B.; Willberg, Dean M.; Samuel, Mathew M.; Lee, Jesse C.; Chang, Frank F.; Card, Roger J.; Vinod, Palathinkara S.; Brown, J. Ernest; Thomas, Ronnie L.
PA USA
SO U.S. Pat. Appl. Publ., 52 pp., Cont.-in-part of U.S. 5,964,295.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002023752	A1	20020228	US 1999-256980	19990223
	US 6435277	B2	20020820		
	US 5964295	A	19991012	US 1996-727877	19961009
	US 5979557	A	19991109	US 1997-865137	19970529
	US 2003019627	A1	20030130	US 2002-51842	20020117
	US 2002185278	A1	20021212	US 2002-139886	20020506
PRAI	US 1996-727877	A2	19961009		
	US 1997-865137	A2	19970529		
	US 1998-219948	A1	19981223		
	US 1999-256980	A3	19990223		

AB The improved recovery of hydrocarbons from subterranean formations by hydraulically fracturing a subterranean formation is accomplished. Fracturing fluids using a viscosifying surfactant fluid contg. viscosifying micelles, for example, wormlike micelles, are useful to improve recovery of hydrocarbons and limit the loss of fracturing fluid into the formation fracture face. The invention further relates to novel fracturing and acidizing methods useful for increasing hydrocarbon prodn., limiting water prodn., resisting fracturing fluid loss into the subterranean formation, and reducing the equipment requirements in mixing and pumping fracturing fluid. The action of viscosifying micelles of surfactant in aq. zones of the subterranean formation diverts fracturing fluid or acid from the aq. zones to the hydrocarbon-bearing zones and also facilitates the flowback of increased amts. of hydrocarbons once a fractured well is placed back on prodn. These methods selectively block the pore structure in a water-bearing zone and do not blocking the pore structure of a hydrocarbon zone at the formation face. The step for selectively blocking forms a plug of a viscous fluid contg. viscosifying micelles in the pore structure of the water-bearing zone at the formation face.

IT **401631-64-9**
RL: MOA (Modifier or additive use); USES (Uses)
(compns. contg. aq. viscosifying surfactants and methods for applying such compns. in subterranean formations)
RN 401631-64-9 CAPLUS
CN 13-Docosen-1-amine, N-oxide, (13Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

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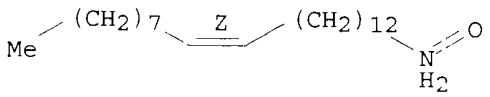


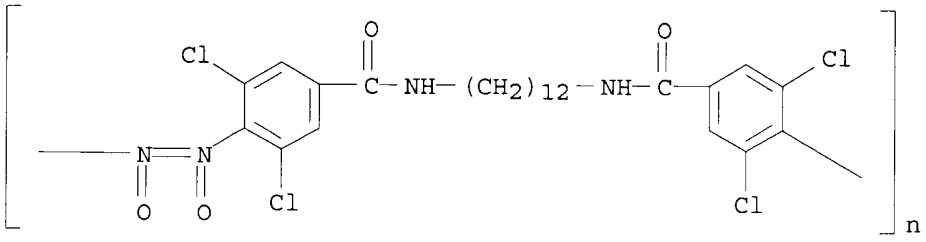
L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 1975:411401 CAPLUS
DN 83:11401
TI Polymers coupled by nitroso groups
IN Pazos, Jose F.
PA du Pont de Nemours, E. I., and Co., USA
SO U.S., 20 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3872057	A	19750318	US 1973-329072	19730202
PRAI US 1971-195027		19711102		

AB Oligomers or polymers contg. .gtoreq.2 nitroso groups by nitrosation, or by copolymn. of nitrosated monomer, were crosslinkable by dimerization of the nitroso groups at room temp. but could be melt fabricated by dissocn. of the dimer couplings at higher temps. Thus, 5 g ethylene-propylene-1,4-hexadiene polymer [25038-37-3] was treated with a soln. of 2.3 ml nitrosyl chloride [2696-92-6] in CH2Cl2 to give nitrosated product which crosslinked on heating 0.5 hr at 50-60.degree.. The nitroso linkages dissocd. in the presence of 2,6-dichloronitrosobenzene [1194-66-7] and the nitrosated, coupled polymer was solubilized at 50-60.degree. in presence of ethyl 3,5-dichloro-4-nitrosobenzoate [4523-40-4]. The nitrosated polymer was molded at 100.degree. and 10,000 psi. A series of polyesters, polyamides, and urethane polymers were prepd. based on dimeric 4-nitroso-3,5-dichlorobenzoyl chloride.

IT **55538-02-8P 55851-93-9P**
RL: PREP (Preparation)
(prepn. of)

RN 55538-02-8 CAPLUS
CN Poly[(dioxidoazo)(2,6-dichloro-1,4-phenylene)carbonylimino-1,12-dodecanediyliminocarbonyl(3,5-dichloro-1,4-phenylene)] (9CI) (CA INDEX NAME)



RN 55851-93-9 CAPLUS
CN Poly[(dioxidoazo)(2,6-dichloro-1,4-phenylene)carbonyl[(2-methylpropyl)imino]-1,6-hexanediyl[(2-methylpropyl)imino]carbonyl(3,5-dichloro-1,4-phenylene)] (9CI) (CA INDEX NAME)

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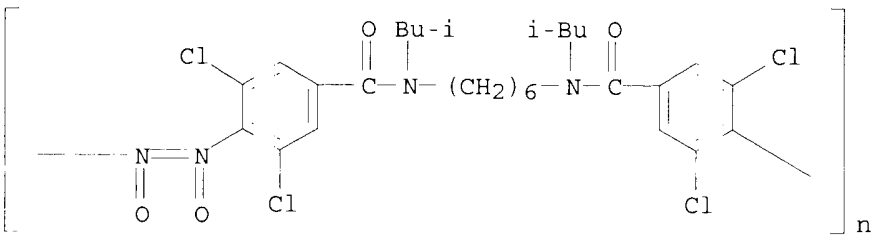

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his

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     (FILE 'HOME' ENTERED AT 13:24:00 ON 05 FEB 2003)

     FILE 'REGISTRY' ENTERED AT 13:24:07 ON 05 FEB 2003
               E METHYLMORPHOLINE OXIDE/CN
               E 4-METHYLMORPHOLINE-4-OXIDE?/CN
L1           1 S E1-E2
L2             STRUCTURE UPLOADED
L3           6 S L2 FULL

     FILE 'CAPLUS' ENTERED AT 13:29:01 ON 05 FEB 2003
L4           3 S L3

     FILE 'REGISTRY' ENTERED AT 13:45:28 ON 05 FEB 2003
L5             STRUCTURE UPLOADED
L6          50 S L5 SSS

     FILE 'CAPLUS' ENTERED AT 13:46:05 ON 05 FEB 2003
L7          36 S L6
L8           0 S L7 AND NUCLEIC ACID

     FILE 'REGISTRY' ENTERED AT 13:53:41 ON 05 FEB 2003
L9             STRUCTURE UPLOADED
L10         50 S L9 SSS

     FILE 'CAPLUS' ENTERED AT 13:54:09 ON 05 FEB 2003
L11         49 S L10
L12          1 S L11 AND NUCLEIC ACID
L13         92 S THF AND NUCLEIC ACID
L14         14 S L13 AND SYNTHES? (3A) NUCLEIC ACID?

=> s l14 and polymerase
       129674 POLYMERASE
L15         0 L14 AND POLYMERASE

=> s nucleic acid? (4a) synthes? and amino acid?
       134348 NUCLEIC
      4186540 ACID?
       133449 NUCLEIC ACID?
                (NUCLEIC(W)ACID?)
      1268980 SYNTHES?
         5739 NUCLEIC ACID? (4A) SYNTHES?
       894368 AMINO
      4186540 ACID?
       571716 AMINO ACID?
                (AMINO(W)ACID?)
L16       481 NUCLEIC ACID? (4A) SYNTHES? AND AMINO ACID?

=> s nucleic acid? (3a) synthesi? (6a) amino acid?
       134348 NUCLEIC
      4186540 ACID?
       133449 NUCLEIC ACID?
                (NUCLEIC(W)ACID?)
      1238947 SYNTHESI?
       894368 AMINO
      4186540 ACID?
       571716 AMINO ACID?
                (AMINO(W)ACID?)
L17        75 NUCLEIC ACID? (3A) SYNTHESI? (6A) AMINO ACID?

=> s nucleic acid? (3a) synthesi? (3a) amino acid?
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        134348 NUCLEIC
       4186540 ACID?
        133449 NUCLEIC ACID?
                 (NUCLEIC(W)ACID?)
       1238947 SYNTHESI?
        894368 AMINO
       4186540 ACID?
        571716 AMINO ACID?
                 (AMINO(W)ACID?)
L18         51 NUCLEIC ACID? (3A) SYNTHESI? (3A) AMINO ACID?

=> s nucleic acid? (3a) synthesi? (2a) amino acid?
        134348 NUCLEIC
       4186540 ACID?
        133449 NUCLEIC ACID?
                 (NUCLEIC(W)ACID?)
       1238947 SYNTHESI?
        894368 AMINO
       4186540 ACID?
        571716 AMINO ACID?
                 (AMINO(W)ACID?)
L19         39 NUCLEIC ACID? (3A) SYNTHESI? (2A) AMINO ACID?

=> dup rem l19
PROCESSING COMPLETED FOR L19
L20          39 DUP REM L19 (0 DUPLICATES REMOVED)

=> d l20 bib abs 1-39

L20  ANSWER 1 OF 39  CAPLUS  COPYRIGHT 2003 ACS
AN   2002:977833  CAPLUS
DN   138:73461
TI   Synthesis of amino acid-containing nucleoside as building blocks for
     library preparation of PNA peptide-oligodeoxyribonucleotides
IN   Pedersen, Henrik; Abilgaard Slok, Frank; Godskesen, Michael Anders;
     Hyldtoft, Lene; Klarner Sams, Christian
PA   Nuevolution A/S, Den.
SO   PCT Int. Appl., 71 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
PI   WO 2002102820     A1    20021227       WO 2002-DK420    20020620
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
             CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI DK 2001-962       A    20010620
AB   Nucleoside derivs. as building blocks for templated libraries are
     described.  Nucleoside analogs carrying a ribose derived backbone unit may
     be combined with wild type nucleotides to form di-, tri- or
     oligonucleotide building blocks.  Likewise, nucleoside analogs having a
     peptide backbone unit may be combined with PNA monomers to form di-, tri
     or oligo peptidic building blocks.  Thus, 5-(lysin-propargylamide)-5'-
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triphosphate-2'-deoxycytidine, triethylammonium salt was prepd. and used as building block for library prepn. of PNA peptide-oligodeoxyribonucleotides.

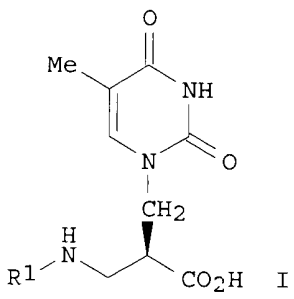
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2002:235942 CAPLUS
DN 136:263389
TI Non-enzymatic peptide synthesis using single-stranded DNA and nucleic acid lipid amino acid ester
IN Ueji, Shinichi; Ehara, Yasuto; Kaihatsu, Kunihiro; Nishigaki, Tomohiro
PA Nagase and Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002088096	A2	20020327	JP 2000-279251	20000914
PRAI JP 2000-279251		20000914		

OS CASREACT 136:263389
AB A simple non-enzymic peptide synthesis method by reaction of single-stranded DNA and nucleic acid lipid amino acid ester, is disclosed. Synthesis of 9-(6'-hydroxyhexyl)adenine or 9-(6'-hydroxyhexyl)thymine from adenine or thymine and 1-bromohexyl alc., and their further reaction with Fmoc-Phe-OH or Fmoc-Ala-OH, is described. One of the products obtained, A-C6-Ala bound to dT20 and dT40 to produce A-C6-OH and poly-L-Ala.

L20 ANSWER 3 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2002:70720 CAPLUS
DN 136:310141
TI Chemo-enzymatic synthesis of novel .beta.-amino acids substituted by (thymin-1-yl)methyl functional group at the .alpha.-position
AU Yokomatsu, Tsutomu; Takada, Ken; Yasumoto, Akihito; Yuasa, Yoko; Shibuya, Shiroshi
CS School of Pharmacy, Tokyo University of Pharmacy and Life Science, Tokyo, 192-0392, Japan
SO Heterocycles (2002), 56(1-2), 545-552
CODEN: HTCYAM; ISSN: 0385-5414
PB Japan Institute of Heterocyclic Chemistry
DT Journal
LA English
GI



I

AB A novel .beta.-amino acid having (thymin-1-yl)methyl functionality at the .alpha.-position I (R1 = tert-butoxycarbonyl), a useful component of

.alpha.-substituted .beta.-homoalanyl peptide nucleic acids (.beta.2-PNAs), was synthesized as a protected form from 2-(N3-benzoylthymin-1-yl)methyl-1,3-propanediol via enzymic desymmetrization catalyzed by lipase PS.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2002:815323 CAPLUS
TI Identification of conidial-enriched transcripts in Aspergillus nidulans using suppression subtractive hybridization
AU Osherov, Nir; Mathew, John; Romans, Angela; May, Gregory S.
CS Division of Pathology and Laboratory Medicine, The University of Texas, M. D. Anderson Cancer Center, Houston, TX, 77030, USA
SO Fungal Genetics and Biology (2002), 37(2), 197-204
CODEN: FGBIFV; ISSN: 1087-1845
PB Elsevier Science
DT Journal
LA English
AB We have isolated and sequence-identified 12 genes whose transcripts are significantly enriched in Aspergillus nidulans conidia. To identify these genes, we used the method of suppressive subtraction hybridization (SSH). One of the 12 genes is similar to plant thaumatin-like proteins that have antifungal properties. Four genes encode metabolic enzymes crucial in the **synthesis** of glucose, carbohydrates, **nucleic acid**, and **amino acid** precursors. The rest are of unknown function. We have analyzed the pattern of expression of the 12 conidial-enriched transcripts in wild-type and mutant strains of A. nidulans blocked at different stages of conidial development. Our results indicate that the conidial-enriched transcripts can be divided into four classes based on their expression pattern in the wild-type and mutant strains. Study of the genes identified in this report may enhance our understanding of the process of conidial formation and germination.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2001:675267 CAPLUS
DN 136:6329
TI Synthesis of new chiral peptide nucleic acid (PNA) monomers
AU Falkiewicz, Bogdan; Wisniowski, Wojciech; Kolodziejczyk, Aleksandra S.; Wisniewski, Kazimierz
CS Faculty of Biotechnology, University and Medical University of Gdansk, Gdansk, 80-822, Pol.
SO Nucleosides, Nucleotides & Nucleic Acids (2001), 20(4-7), 1393-1397
CODEN: NNNAFY; ISSN: 1525-7770
PB Marcel Dekker, Inc.
DT Journal
LA English
AB We have synthesized a series of new chiral peptide nucleic acid monomers, contg. N-(aminoalkyl)amino acid unit, with nucleobase attached to secondary amine group of the backbone. The PNAs were prepd. by reductive amination of Boc-protected (Boc = tert-butoxycarbonyl) chiral amino aldehydes, derived from Val, Ile, Ser(Bzl), Pro, and Trp, followed by coupling of obtained 2-substituted Me N-(2-Boc-aminoethyl)glycinates with thymin-1-ylacetic acid in total yields of 36-53%.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2001:555301 CAPLUS
DN 135:195701

09567863

TI Development of organic **synthesis** processes focusing on **nucleic acid** and **amino acid** derivatives
AU Onishi, Tomoyuki
CS Aminosci. Lab., Ajinomoto Co., Inc., Kawasaki, 210-8681, Japan
SO Yuki Gosei Kagaku Kyokaishi (2001), 59(5), 448-449
CODEN: YGKKAE; ISSN: 0037-9980
PB Yuki Gosei Kagaku Kyokai
DT Journal; General Review
LA Japanese
AB A review with 2 refs. on development of processes for synthesis of antiherpetic nucleoside A-5021 and a key-intermediate epoxide for HIV protease inhibitors.

L20 ANSWER 7 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2000:260480 CAPLUS
DN 132:289617
TI Polysaccharide biosynthesis enzymes and their nucleic acids from eucalyptus and pine and their use for the modification of plant cell wall polysaccharides
IN Bloksberg, Leonard Nathan
PA Genesis Research and Development Corporation Limited, N. Z.; Fletcher Challenge Forests Limited
SO PCT Int. Appl., 301 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000022092	A2	20000420	WO 1999-NZ169	19991008
	WO 2000022092	A3	20000713		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2345046	AA	20000420	CA 1999-2345046	19991008
	EP 1123404	A2	20010816	EP 1999-954501	19991008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 9914437	A	20011016	BR 1999-14437	19991008
	JP 2002527056	T2	20020827	JP 2000-575985	19991008
PRAI	US 1998-170862	A	19981013		
	US 1999-148426P	P	19990811		
	WO 1999-NZ169	W	19991008		

AB Novel isolated polynucleotides and polypeptides assocd. with the synthesis of plant cell wall polysaccharides are provided, together with genetic constructs comprising such sequences. The cDNAs from Eucalyptus grandis and Pinus radiata encode ADP-glucose pyrophosphorylase, amylase, cellulose synthase, sucrose synthase, UDP-glucose pyrophosphorylase, annexin and related enzymes. Methods for using such constructs for the modulation of polysaccharide content in plants are also disclosed, together with transgenic plants comprising such constructs.

L20 ANSWER 8 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 2000:454829 CAPLUS
DN 133:222996

09567863

TI Multicomponent synthesis of novel amino acid-nucleobase chimeras: a versatile approach to PNA-monomers
AU Maison, Wolfgang; Schlemminger, Imre; Westerhoff, Ole; Martens, Jurgen
CS Fachbereich Chemie, Universitat Oldenburg, Oldenburg, D-26111, Germany
SO Bioorganic & Medicinal Chemistry (2000), 8(6), 1343-1360
CODEN: BMECEP; ISSN: 0968-0896
PB Elsevier Science Ltd.
DT Journal
LA English
OS CASREACT 133:222996
AB This paper describes a multicomponent approach to novel totally protected precursors of PNA-monomers via Ugi 4CC. The obtained bisamides are converted into several partially protected PNA-monomers or derivs. thereof using three different procedures. Methods for hydrolysis are shown to be dependent on the nature of the isocyano component required for Ugi 4CC. Several novel monomers suitable for oligomer synthesis are prepd. demonstrating the high versatility of the reaction sequence.
RE.CNT 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 9 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1999:670140 CAPLUS
DN 131:286820
TI Preparation of oligonucleotide analogs having an amino acid or a modified amino alcohol residue
IN Ramasamy, Kandasamy; Seifert, Wilfried E.
PA ICN Pharmaceuticals, Inc., USA
SO U.S., 65 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5969135	A	19991019	US 1995-551947	19951102
PRAI US 1995-551947		19951102		

AB The compds. of the invention are oligonucleotide analogs in which the furanose ring of a naturally occurring nucleic acid is replaced with an amino acid or a modified amino alc. residue. The synthesis of monomeric precursors of the oligonucleotide analogs of the invention is described. Thus, 1-O-(4,4'-dimethoxytrityl)-2-[(thyminylacetyl)amino]-L-propan-3-O-N,N-diisopropyl-.beta.-cyanoethylphosphoramidite was prepd. from L-serine Me ester, thymineacetic acid, and 2-cyanoethyl-N,N-diisopropylchlorophosphoramidite. Oligonucleotides contg. modified **amino acid nucleic acid** backbones were **synthesized** on an automated DNA synthesizer using std. phosphoramidite chem. The ability of the amino acid modified oligonucleotides to hybridize to their complementary RNA and DNA sequences is detd. by thermal melting anal.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 10 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1999:512045 CAPLUS
DN 131:286779
TI Synthesis of .delta.-amino acids with an ether linkage in the main chain and nucleobases on the side chain as monomer units for oxy-peptide nucleic acids
AU Kuwahara, Masayasu; Arimitsu, Miki; Sisido, Masahiko
CS Department of Bioscience and Biotechnology, Faculty of Engineering, Okayama University, Okayama, 700-8530, Japan
SO Tetrahedron (1999), 55(33), 10067-10078

09567863

CODEN: TETRAB; ISSN: 0040-4020
PB Elsevier Science Ltd.
DT Journal
LA English
AB Syntheses of four N-Fmoc .delta.-amino acids with an ether linkage in the main chain and four different nucleobases on the side chain, Fmoc-NHC*H(CH2CH2-B)CH2OCH2COOH (B = thymine, uracil, N4-benzoylcytosine, and N2-isobutyrylguanine), are described. The .delta.-amino acids were prepd. through 8-12 step synthesis starting from L-homoserine and could be linked together to form novel peptide nucleic acids.
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

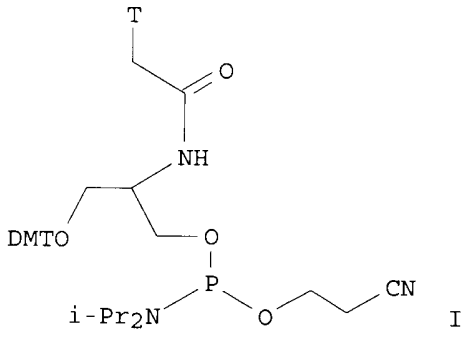
L20 ANSWER 11 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1997:679205 CAPLUS
DN 127:355960
TI Nucleic acid and amino acid sequences relating to Helicobacter pylori and vaccine compositions
IN Smith, Douglas; Alm, Richard A.
PA Astra AB, Swed.; Smith, Douglas; Alm, Richard A.
SO PCT Int. Appl., 1144 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9737044	A1	19971009	WO 1997-US5223	19970327
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, US, US, US, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2248985	AA	19971009	CA 1997-2248985	19970327
	AU 9725984	A1	19971022	AU 1997-25984	19970327
	AU 726892	B2	20001123		
	ZA 9702715	A	19980625	ZA 1997-2715	19970327
	EP 901530	A1	19990317	EP 1997-917731	19970327
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1220703	A	19990623	CN 1997-195113	19970327
	BR 9708456	A	19990803	BR 1997-8456	19970327
	JP 2000501621	T2	20000215	JP 1997-529649	19970327
	NO 9804517	A	19981125	NO 1998-4517	19980928
PRAI	US 1996-625811	A2	19960329		
	US 1996-758731	A2	19960402		
	US 1996-736905	A2	19961025		
	US 1996-738859	A2	19961028		
	US 1996-761318	A2	19961206		
	WO 1997-US5223	W	19970327		

AB Recombinant or substantially pure prepns. of polypeptides and their encoding nucleic acids are described which may be useful for diagnostic and vaccine compns. for Helicobacter pylori infection. Thus, H. pylori chromosomal DNA was isolated by a std. DNA protocol, nebulized, purified, and sequenced using the multiplex DNA sequencing based on chem. degrdn. methods. A gene expression system, such as the pET-28b vector system, was selected for cloning and expression of recombinant protein in Escherichia coli. Selection of candidate protein antigens for vaccine development are derived from the nucleic acid sequences by analyzing the open reading

frames (ORFs) for homol. to other known exported or membrane proteins and using discriminant anal. for predicting exported and membrane proteins. ORF amino acid sequences identified as exported or membrane-assocd. by the discriminant anal. algorithm are likely protein antigens for vaccine development. Thus, 546 nucleic acid sequences and their derived ORF amino acid sequences are provided. Gene knockout techniques using oligonucleotide primers for cloning, deletion, and targeting are also provided to identify nucleic acids that encode proteins essential for growth or viability, and thereby are preferred drug targets. Strain variation anal. provides nucleic acids, including probes, and peptide and polypeptide sequences that are common to all H. pylori strains but are not found in other bacterial species. Cloning, purifn, and characterization of the genes encoding peptidyl-prolyl cis-trans isomerase (ppi) and glutamate racemase (mirI) are described in detail as specific examples, and glutamate racemase activity can be applied in high throughput drug screening assays.

L20 ANSWER 12 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1997:758005 CAPLUS
DN 128:61750
TI **Amino acid nucleic acids**: **synthesis** and hybridization properties of a novel class of antisense oligonucleotides
AU Ramasamy, Kanda S.; Seifert, Wilfried
CS Research Division, ICN Pharmaceuticals, Inc., Costa Mesa, CA, 92626, USA
SO Nucleosides & Nucleotides (1997), 16(7-9), 1519-1522
CODEN: NUNUD5; ISSN: 0732-8311
PB Marcel Dekker, Inc.
DT Journal
LA English
GI



I

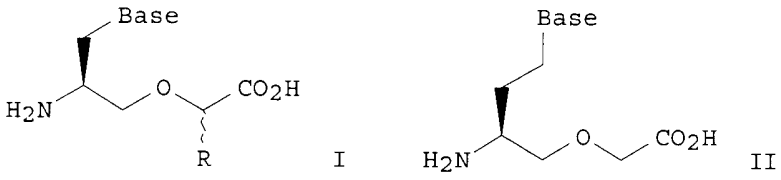
AB Oligonucleotides contg. novel phosphoramidite I (T = thymidine) were synthesized and studied for their hybridization properties for the first time. Interestingly, these modified oligonucleotides showed a remarkable resistance to exonuclease.

L20 ANSWER 13 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1997:39386 CAPLUS
DN 126:157772
TI Synthesis of N-Fmoc-.alpha.-amino acids carrying the four DNA nucleobases in the side chain
AU Ciapettii, Paola; Soccolini, Francesco; Taddei, Maurizio
CS Dip. Chimica Organica "Ugo Schiff", Univ. Firenze, Florence, 50121, Italy
SO Tetrahedron (1997), 53(3), 1167-1176
CODEN: TETRAB; ISSN: 0040-4020

09567863

PB Elsevier
DT Journal
LA English
OS CASREACT 126:157772
AB Four new N-Fmoc .alpha.-amino acids (Fmoc = 9-fluorenylmethoxycarbonyl) carrying a nucleobase in the side chain were prepd. starting from L-glutamic acid. Boc-L-Glu-OCH2Ph (Boc = Me3CO2C) underwent a radical decarboxylation in the presence of CBrCl3 to give the corresponding 2-amino-4-bromobutanoic acid deriv. The four nucleobases (adenine, cytosine, thymine and guanine) were introduced "via" nucleophilic substitution of the bromide using a different synthetic protocol for each base. The Boc protection was changed to Fmoc and the benzyl ester deprotected to give the four amino acids (S)-Fmoc-NHCH(CH2CH2R)CO2H (R = adenine, cytosine, thymine, or guanine residue) in good yields and in a suitable form for solid phase peptide synthesis. The prepn. of the insecticidal dipeptide NK 374200 is also described.

L20 ANSWER 14 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1997:357090 CAPLUS
DN 127:81743
TI Polyamide based **nucleic acid** analogs - **synthesis** of .delta.-**amino acids** with nucleic acid bases bearing side chains
AU Altmann, Karl-Heinz; Chiesi, Chantal Schmit; Garcia-Echeverria, Carlos
CS Central Research Laboratories, and Pharmaceutical Research Division, Oncology Dep., CIBA, USA
SO Bioorganic & Medicinal Chemistry Letters (1997), 7(9), 1119-1122
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier
DT Journal
LA English
OS CASREACT 127:81743
GI

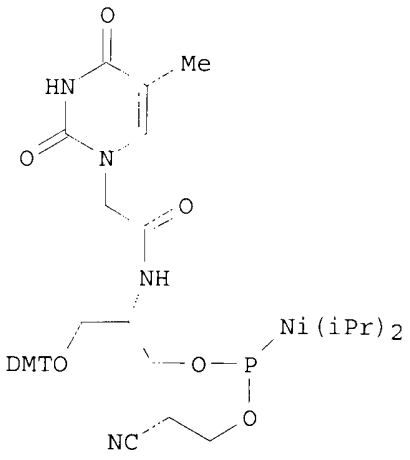


AB Nucleoamino acids of type I (R = H, Me) and II have been synthesized, which can serve as building blocks for novel polyamide based nucleic acid analogs. Key steps in the syntheses are the alkylation of protected serinol and homoserinol with tert-Bu bromoacetate or tert-Bu bromopropionate under phase transfer conditions and the introduction of thymidine or uracil into the amino acid side chains by way of a Mitsunobu reaction. Cytosine derivs. were prepd. through uracil to cytosine base conversion at the stage of N-tert-butoxycarbonyl protected amino acid tert-Bu esters.

L20 ANSWER 15 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1996:511870 CAPLUS
DN 125:301425
TI **Amino acid nucleic acids**: **synthesis** and hybridization properties of a novel class of antisense oligonucleotides
AU Ramasamy, Kanda S.; Seifert, Wilfried
CS ICN Research Dep., ICN Pharmaceuticals, Inc., Costa Mesa, CA, 92626, USA

09567863

SO Bioorganic & Medicinal Chemistry Letters (1996), 6(15), 1799-1804
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier
DT Journal
LA English
GI



I

AB Oligodeoxyribonucleotides contg. novel phosphoramidite I were synthesized and studied for their hybridization properties for the first time. Interestingly, these modified oligonucleotides showed a remarkable resistance to exonuclease.

L20 ANSWER 16 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1996:415176 CAPLUS
TI **Amino acid nucleic acids**:
Synthesis and hybridization properties of a novel class of antisense oligonucleotides.
AU Ramasamy, Kanda S.; Seifert, Wilfried
CS ICN Pharmaceuticals, Inc., Costa Mesa, CA, 92626, USA
SO Book of Abstracts, 212th ACS National Meeting, Orlando, FL, August 25-29 (1996), ORGN-270 Publisher: American Chemical Society, Washington, D. C.
CODEN: 63BFAF
DT Conference; Meeting Abstract
LA English
AB Oligonucleotides that specifically recognize mRNA present unique opportunities for the treatment of viral diseases, cancer, and for the study of genetic disorders. In order to be pharmacol. useful, the oligonucleotides must have (a) sufficient binding to its target sequence; (b) sufficient specificity; (c) stability towards exo- and endo-nucleases; (d) penetrate through cell membrane. To meet these criteria derivs. such as phosphorothiates, phosphoramidates, methylphosphonates, formacetal, carbamate, siloxane, sulfur linked, amides, amine, methylhyrroxylamine and PNA have been examd. However, most of these modifications suffer from one or more forms of criteria. Therefore, the quest to develop new and novel modified oligonucleotides, based on sequence specific interactions between complementary nucleic acid, has sparked recently. Here we will present the synthesis and biophys. properties of Amino Acid Nucleic Acids.

L20 ANSWER 17 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1996:525144 CAPLUS

09567863

DN 125:160477
TI Synthesis and role of glutathione in protection against oxidative stress in yeast
AU Grant, C. M.; Dawes, I. W.
CS School Biochemistry and Molecular Genetics, University New South Wales, Sydney, 2052, Australia
SO Redox Report (1996), 2(4), 223-229
CODEN: RDRPE4; ISSN: 1351-0002
PB Churchill Livingstone
DT Journal; General Review
LA English
AB A review with 60 refs. Glutathione (GSH) is an abundant and ubiquitous low-mol.-mass thiol with proposed roles in many cellular processes including **amino acid** transport, **synthesis** of proteins and **nucleic acids**, modulation of enzyme activity and metab. of xenobiotics, carcinogens and reactive oxygen species. This review describes recent findings in the lower eukaryote Saccharomyces cerevisiae that are leading to a better understanding of the role of this peptide in eukaryotic cell metab. In particular, two gene products involved in maintaining the levels of reduced GSH have been studied; namely, GSH1 encoding .gamma.-glutamylcysteine synthetase, the first step in the biosynthesis of GSH, and glutathione reductase, which recycles glutathione to its reduced form. These studies indicate that GSH is an essential metabolite in yeast, and that it is required for protection against oxidative stress produced by mitochondrial metab. and exogenous reactive oxygen species. These findings are discussed in the light of analogous observations made in higher eukaryotes.

L20 ANSWER 18 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1992:443586 CAPLUS
DN 117:43586
TI Abiotic photosynthesis of substances relative to the origin of life from aqueous ammonium carbonate solutions
AU Kihara, Sorin; Sanada, Mitsuo; Kuwada, Shinji; Sohrin, Yoshiki; Shirai, Osamu; Kokusen, Hisao; Suzuki, Mitsuko; Matsui, Masakazu
CS Inst. Chem. Res., Kyoto Univ., Uji, 611, Japan
SO Analytical Sciences (1991), 7(Suppl., Proc. Int. Congr. Anal. Sci., 1991, Pt. 1), 663-6
CODEN: ANSCEN; ISSN: 0910-6340
DT Journal
LA English
AB It has been demonstrated that **amino acids** and **nucleic acid** bases can be **synthesized** by UV irradn. even in such rather oxidizing atm. as aq. solns. contg. CO2, HCO3- and/or CO32- in the absence of CH4 or H2. For the prodn. of amino acids and nucleic acid bases from ammonium carbonate soln. or water to which CO2 and NH3 gases had been dissolved, UV shorter than 250 nm, temp. higher than 80.degree. and the coexistence of Mg2+ were found to be effective. On the basis of some exptl. evidence, oxalic acid and/or oxamic acid are assumed to be the possible intermediates for the synthesis.

L20 ANSWER 19 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1988:403502 CAPLUS
DN 109:3502
TI Presence of anaplerotic reactions and transamination, and the absence of the tricarboxylic acid cycle in Mollicutes
AU Manolukas, John T.; Barile, Michael F.; Chandler, Donna K. F.; Pollack, J. Dennis
CS Dep. Med. Microbiol. Immunol., Ohio State Univ., Columbus, OH, 43210, USA
SO Journal of General Microbiology (1988), 134(3), 791-800
CODEN: JGMIAN; ISSN: 0022-1287
DT Journal

09567863

LA English
AB Cell exts. of the fermentative Mollicutes Acholeplasma laidlawli B-PG9, A. morum S2, Mycoplasma capricolum 14, M. gallisepticum S6, M. pneumoniae FH, M. hyopneumoniae J and M. genitalium G-37, and the non-fermentative M. hominis PG-21, M. hominis 1620 and M. bovigenitalium PG-11 were examd. for 39 cytoplasmic enzyme activities assocd. with the tricarboxylic acid (TCA) cycle, transamination, anaplerotic reactions, and other enzyme activities at the pyruvate locus. Malate dehydrogenase (EC 4.2.1.2) was the only TCA-cycle-assocd. enzyme activity detected, and it was found only in the 8 Mycoplasma species. Aspartate aminotransferase (EC 2.6.1.1) activity was detected in all Mollicutes tested except M. gallisepticum S6. Malate synthetase (EC 4.1.3.2) activity, in the direction of malate formation, was found in the 8 Mycoplasma species, but not in any of the Acholeplasma species. Phosphoenolpyruvate (PEP) carboxylase (EC 4.1.1.31) was detected in the direction of oxaloacetate (OAA) formation in both Acholeplasma species, but not in any of the Mycoplasma species. Pyruvate carboxylase (EC 6.4.1.1), pyruvate kinase (EC 2.7.1.40), pyruvate dehydrogenase (EC 1.2.4.1), and lactate dehydrogenase (EC 1.1.1.27) activities were found in all 10 Mollicutes tested,. No activities were detected in any of the 10 Mollicutes for aspartase (EC 4.3.1.1), malic enzyme (EC 1.1.1.40), PEP carboxytransphosphorylase (EC 4.1.1.38), PEP carboxykinase (EC 4.1.1.32) or pyruvate orthophosphate dikinase (EC 2.7.9.1). In these TCA-cycle-deficient Mollicutes, the pyruvate-OAA locus may be a point of linkage for the carbons of glycolysis, lipid synthesis, **nucleic acid synthesis** and certain **amino acids** . CO2 fixation appears obligatory in the Acholeplasma species and either CO2 fixation or malate synthesis appears obligatory in the Mycoplasma species.

L20 ANSWER 20 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1978:486144 CAPLUS
DN 89:86144
TI **Amino acid**-directed **nucleic acid synthesis**. A possible mechanism in the origin of life
AU Nelsestuen, Gary L.
CS Coll. Biol. Sci., Univ. Minnesota, St. Paul, MN, USA
SO Journal of Molecular Evolution (1978), 11(2), 109-20
CODEN: JMEVAU; ISSN: 0022-2844
DT Journal
LA English
AB The fact that proteins contain only .alpha.-amino acids and that protein structure is detd. by 3' .fwdarw. 5' linked ribonucleotides is postulated to be the result of the copolymn. of these mols. in the prebiotic environment. Ribonucleotides, therefore, represent partial degrdn. products and proteins represent a side reaction developing from copolymn. The basic structural unit of copolymn. is a nucleotide substituted with an amino acid at the 2' position. Characteristics of modern amino acid and RNA structure are all consistent with and necessary for this hypothesis. The characteristics and individual base assignments of the code also provide strong support for origin from the postulated copolymers. All characteristics of the code can be accounted for by this single hypothesis.

L20 ANSWER 21 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1976:160496 CAPLUS
DN 84:160496
TI Effect of EI-treatment in relation to physiological and biochemical traits in rice: delay in germination and its recovery with provision of glucose
AU Inoue, M.; Hasegawa, H.; Hori, S.
CS Radiat. Cent. Osaka Prefect., Sakai, Japan
SO Radiation Botany (1975), 15(4), 397-404
CODEN: RABOAW; ISSN: 0033-7560

09567863

DT Journal
LA English
AB Rice seeds treated with 0.2-1.2% by vol. of ethylenimine [151-56-4] demonstrated increasingly delayed germination concomitant with increasing dose. At the time of germination, the release of storage products was slightly inhibited at lower doses and completely reduced at higher doses. With increasing time after germination the development of shoot length, content of reducing sugar and free **amino acid**, and **synthesis** of **nucleic acid** and protein in treated seeds, showed the same response pattern as the control, although at reduced levels in the treated seeds. When treated seeds were cultured in 14C-labeled glucose [50-99-7] medium, the specific activity of labeled glucose was higher in late-germinating seeds than in early-germinating seeds. Furthermore, the provision of glucose prevented the delay of germination, causing about a 10% increase in germination rate (survival rate), and yet had no effect on subsequent growth. Finally, the damage resulting in delayed germination and redn. of survival differs from the damage leading to inhibition of subsequent growth in that the former can be compensated for by provision of glucose while the latter cannot.

L20 ANSWER 22 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1975:527569 CAPLUS
DN 83:127569
TI Relations between **amino acids** and transport **nucleic acids** during protein **synthesis**
AU Gulyi, M. F.
CS Inst. Biokhim. im. Palladina, Kiev, USSR
SO Molekulyarnaya Biologiya (Kiev) (1975), 11, 3-21
CODEN: MLKBAQ; ISSN: 0375-9415
DT Journal; General Review
LA Russian
AB A review with 85 refs. on the interactions among individual amino acids, tRNA, and aminoacyl-tRNA synthetases in protein synthesis.

L20 ANSWER 23 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1975:71324 CAPLUS
DN 82:71324
TI Effect of changes in the oxygen metabolism on the energy metabolism and proliferation of Ehrlich ascites tumor cells cultured in vitro
AU Krause, Peter; Schneider, Friedhelm
CS Physiol.-Chem. Inst., Univ. Marburg, Marburg/Lahn, Fed. Rep. Ger.
SO Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1974), 355(11), 1335-40
CODEN: HSZPAZ; ISSN: 0018-4888
DT Journal
LA German
AB Anaerobic conditions and cyanide (1 mM) stopped cell proliferation of Ehrlich ascites cells cultured in vitro. 2,4-Dinitrophenol (0.5 mM) and Amytal (1.8 mM) decreased it to 50 and 5%, resp. The no. of dead cells was increased only by Amytal. A simple relation between ATP level and cell proliferation could not be obsd. The energy of glycolysis may support ATP in all metabolic processes essential for vitality and cell proliferation. Under anaerobiosis and cyanide, cell proliferation did not stop as a consequence of an energy deficiency. Oxygen is essential for **synthesis** of **nucleic acids** and normal **amino acid** transport. As a consequence of the Pasteur effect, glycolysis was stimulated by all impairments of respiration.

L20 ANSWER 24 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1975:110599 CAPLUS
DN 82:110599
TI Biochemical and electron microscopic studies of rat skin during zinc

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deficiency
AU Hsu, J. M.; Kim, K. M.; Anthony, W. L.
CS VA Hosp., Baltimore, MD, USA
SO Advances in Experimental Medicine and Biology (1974), 48, 347-88
CODEN: AEMBAP; ISSN: 0065-2598
DT Journal; General Review
LA English
AB A review with 54 refs. is given on the effects of Zn deficiency of **amino-acid** incorporation, collagen **synthesis**, and **nucleic acid** metab. in rat skin and other selected tissues.

L20 ANSWER 25 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1973:95622 CAPLUS
DN 78:95622
TI Lymphocyte monovalent cation metabolism. Cell volume, cation content, and cation transport
AU Lichtman, Marshall A.; Jackson, Anthony H.; Peck, William A.; Kearney, Elizabeth
CS Sch. Med. Dent., Univ. Rochester, Rochester, NY, USA
SO Journal of Cellular Physiology (1972), 80(3), 383-96
CODEN: JCLLAX; ISSN: 0021-9541
DT Journal
LA English
AB Mechanisms which determine Na and K content and the vol. of rat thymic and human chronic lymphocytic leukemia (CLL) lymphocytes were studied. In vivo distribution ratios of 24Na and 42K between thymus water and plasma water were very similar to the distribution ratios of the nonradioactive isotopes. The similar lymphocyte:thymocyte ratio of cell vol., cell Na plus K, and cell water demonstrated the close correlation of lymphocyte vol. with monovalent cation content and water content. Steady-state CLL lymphocyte Na and K were similar to those for normal cells; however, these steady-state levels were maintained by quantitatively different membrane functions. Four lines of evidence indicate the presence in the lymphocyte of a system of leaks and pumps, the latter subserved by a ouabain- and oligomycin-sensitive (Na-K) ATPase: (a) steady-state monovalent cation gradient (K .apprx.20:1, Na .apprx.5:1), (b) the inability to maintain normal Na and K gradients at cold temps. and in the presence of ouabain, (c) the effect of ouabain and oligomycin on active K influx, and (d) the restitution of steady-state Na and K concn. after cell isolation, ouabain treatment, and cold exposure. CLL lymphocytes as compared to rat thymocytes have decreased rate of ouabain-insensitive Na uptake and K exodus, requiring a reduced rate of active Na extrusion and K accumulation to maintain steady-state cation content. The inhibition by ouabain of blast transformation, mitosis, **amino acid** accumulation, and **nucleic acid synthesis** in vitro may reflect the importance of ouabain-sensitive ATPase and monovalent cation transport in the function of lymphoid cells.

L20 ANSWER 26 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1973:473770 CAPLUS
DN 79:73770
TI Antitumor effect of new amino acid analogs
AU Fukushima, K.; Seto, Y.; Fujita, H.; Nakamura, Y.; Toyoshima, S.; Kanao, S.
CS Sch. Med., Keio Univ., Tokyo, Japan
SO Advan. Antimicrob. Antineoplastic Chemother., Proc. Int. Congr. Chemother., 7th (1972), Meeting Date 1971, Volume 2, 103-5. Editor(s): Hejzlar, Miroslav. Publisher: Univ. Park Press, Baltimore, Md.
CODEN: 26QZAP
DT Conference
LA English

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AB Of 29 amino acid analogs showing initial antitumor activity, N-.beta.-naphthalenesulfonyl-DL-tryptophan [40356-23-8], .beta.-naphthylaminomethyl-.gamma.-aminobutyric acid [41510-03-6], N-ethylcarbaminomethyl-L-isoleucine [41509-80-2], N-9-fluorenylacetyl-L-phenylalanine (I) [40356-21-6], and N-propionyl-L-valine [20051-64-3] exhibited low toxicity and the strongest antitumor activity against Ehrlich ascites tumors and SR-61 leukemia cells in mice. Protein and nucleic acid synthesis in HeLa and Ehrlich ascites tumors was inhibited by these analogs, with I the most effective.

L20 ANSWER 27 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1972:111597 CAPLUS
DN 76:111597
TI Biosynthesis of polypeptide antibiotics
AU Katz, Edward
CS Sch. Med., Georgetown Univ., Washington, DC, USA
SO Pure and Applied Chemistry (1971), 28(4), 551-70
CODEN: PACHAS; ISSN: 0033-4545
DT Journal; General Review
LA English
AB A review included in vivo studies on formation of peptide antibiotics in relation to growth and protein synthesis, inhibitors of protein and **nucleic acid synthesis**, **amino acid** and **nucleic acid** analogs, and controlled or directed' biosynthesis and cell-free studies or general antibiotic properties, amino acid activation, initiation of peptide bond synthesis, role of phosphopantotheine in peptide synthesis, tyrocidine formation, heterologous vs. homologous systems, enzyme specificity, and D-amino acids.

L20 ANSWER 28 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1973:534499 CAPLUS
DN 79:134499
TI Pathophysiology of cytoplasmic polyhedrosis in the silkworm
AU Watanabe, Hitoshi
CS Fac. Agric., Univ. Tokyo, Tokyo, Japan
SO Cytoplasmic-Polyhderosis Virus Silkworm (1971), 151-67. Editor(s): Aruga, Hisao. Publisher: Univ. Tokyo Press, Tokyo, Japan.
CODEN: 27DCAY
DT Conference; General Review
LA English
AB A review of **nucleic acid synthesis**, **amino acid** and protein metab., N catabolism, and enzyme activities in the midgut of silkworms infected with cytoplasmic polyhedrosis virus.

L20 ANSWER 29 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1972:1938 CAPLUS
DN 76:1938
TI Stimulating action of pulsed concentrated sunlight on seeds and plants
AU Stanko, S. A.
CS Inst. Fiziol. Rast. im. Timiryazeva, Moscow, USSR
SO Svetoimpul'snaya Stimulyatsiya Rast. (1971), Meeting Date 1969, 144-209. Editor(s): Shakhov, A. A. Publisher: "Nauka", Moscow, USSR.
CODEN: 23YMA5
DT Conference
LA Russian
AB Presowing irradn. of seeds of soybean, bean, corn, sunflower, pea, wheat, barley with pulsed concd. sunlight stimulated a no. of biochem. processes during germination. Irradn. of growing plants had a similar effect. Shoots grown from irradiated seeds used endosperm reserve substances more easily. During germination of irradiated seeds increased levels of

maltose, glucose, arabinose, rhamnose, fructose, and sucrose were found in the shoots. The content of raffinose and starch quickly decreased. Increased amts. of leucine, isoleucine, tryptophan, tyrosine, alanine, proline, glycine, serine, asparagine, aspartic acid, arginine, histidine, glutamine, glutamic acid, and lysine were found. The content of methionine, valine, cystine, and cysteine was about the same in shoots grown from irradiated and control seeds. Presowing irradn. of seeds increased the synthesis and accumulation of nucleic acids in shoots and consequently stimulated the metabolism and growth processes. Irradn. of growing plants with pulsed concd. sunlight at any stage of growth stimulated the incorporation of N, P, and K into org. substances, accumulation of pigments in leaves, and **synthesis** and accumulation of **nucleic acids**, sugars, **amino acids**, and protein. Changes in the content of these substances in leaves were obsd. after the first 15-30 min of irradn. and disappeared 5-10 days later. Intensity of photosynthesis of irradiated plants had a max. at noon and exceeded that of control plants by 50-60 during the whole day.

L20 ANSWER 30 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1970:494485 CAPLUS
DN 73:94485
TI Chemical evolution and the origin of life
AU Ponnamperuma, Cyril
CS Ames Res. Center, NASA, Moffett Field, CA, USA
SO New York State Journal of Medicine (1970), 70(10), 1169-75
CODEN: NYSJAM; ISSN: 0028-7628
DT Journal; General Review
LA English
AB A review. The **synthesis** of **nucleic acids** and **amino acids** and their polymn. into oligonucleotides and peptides in a prebiotic atm. of CH4, NH3, and H2O was discussed. 21 refs.

L20 ANSWER 31 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1969:112495 CAPLUS
DN 70:112495
TI Dynamics of the accumulation of phosphorus in plants as affected by bacterization
AU Obraztsova, A. A.; Petrenko, M. B.; Karaseva, L. V.
CS Gos. Univ. im. Gor'kogo, Kharkov, USSR
SO Sel'skokhozyaistvennaya Biologiya (1969), 4(1), 31-5
CODEN: SSBLAO; ISSN: 0131-6397
DT Journal
LA Russian
AB Corn seeds were treated with Pseudomonas radiobacter strain K-10 and Azotobacter chroococcum strain K. The plants were grown in pots contg. a chernozem to which 0.15 g. K and N and 0.25 g. P/kg. soil were added. The young upper leaves were harvested at 4 stages of growth for total water, acid sol. P, and nucleic acid anal. Biochem. analyses were made on 3-day-old rhizospheric bacteria (Pseudomonas). During ear and grain formation the P content in the various fractions dropped in the leaves but the acid sol. P was esp. mobile. The nucleic acid content was highest at the formation of the 4-5th leaf and began to rise toward the end of the vegetative period after a drop in the grain formation period. Addn. of bacteria stimulated the overall growth of the plant. The bacteria contained large amts. of **nucleic acids** and actively **synthesized amino acids**, thiamine, nicotinic acid, and pyroxidine. Those bacteria such as P. liquefaciens KM-27 and P. xanthe KC3, which had a neg. effect on the growth, contained low amts. of nucleic acids and synthesized large amts. of biotin.

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L20 ANSWER 32 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1967:400572 CAPLUS
DN 67:572
TI Effect of x-rays and amino acid analogs on the synthesis of DNA and on the nuclear protein, determined in the same tissue
AU Holmes, Barbara E.
CS Wright-Patterson Air Force Base, OH, USA
SO NASA (Nat. Aeronaut. Space Admin.) Access. (1965), AD 611045, 158-69
From: Sci. Tech. Aerospace Rept. 1965, 3(13), N65-23459
CODEN: NAACAF
DT Report
LA English
AB A simultaneous study on the effects of irradn. and **amino acid** analogs on **nucleic acid synthesis** and residual protein synthesis in rat liver cells, is reported. Results of studies on the effects of irradn. on the incorporation of amino acid into nuclear protein showed that large doses of x-rays inhibited synthesis by 50%. Complete synthesis of nucleic acids was achieved in irradiated cells. Irradn. inhibited nucleic acid synthesis without inhibiting the synthesis of a specific protein fraction. In normal cells, the synthesis of this fraction took place simultaneously with nucleic acid synthesis. It is concluded that x-rays caused some interference with the interrelations between these 2 processes. The nature of the damage caused by irradn. to the nucleoprotein complex of the cell was not detd.

L20 ANSWER 33 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1966:38598 CAPLUS
DN 64:38598
OREF 64:7211e-h
TI Regulation of parathyroid activity
AU Raisz, Lawrence G.; Au, William Y. W.; Stern, Paula H.
CS Univ. of Rochester School of Med. & Dentistry, Rochester, NY
SO Parathyroid Glands, Ultrastruct., Secretion, Function, 2nd, Noordwijk aan Zee, Neth. (1965), 1964, 37-52
DT Journal
LA English
AB Whole adult rat parathyroid glands were cultured in small watch glasses at the surface of 0.5 ml. of 50% human or rat serum in Eagle medium in an atm. of 5% CO2 in O. Short-term incubation of whole rat parathyroids in Krebs bicarbonate buffer was used to study the initial steps of amino acid uptake and protein synthesis. Hormone secretion was detd. by the bone bioassay technique (CA 59, 5434f). The secreted protein that was synthesized in tissue culture was detd. by adding radioactive amino acids labeled with 14C or 35S, then sepg. the radioactive proteins by Cl3CCO2H (TCA) pptn. or by gel filtration (Rasmussen and Craig, CA 54, 7803h). Amino acid incorporation into tissue protein was detd. as the radioactivity remaining after the parathyroids had been extd. with cold and hot TCA and lipid solvents. Amino acid uptake was detd. from the tissue/medium distribution ratio. In short-term expts. the free, radioactive amino acid in the tissue was measured by extg. the glands with TCA that contained carrier amino acid. RNA synthesis was estd. by adding orotic acid-6-14C to the medium and detg. the radioactivity in the RNA fraction by a modification of the method of Schmidt and Thannhauser. Low Ca2+ concn. of the surrounding medium stimulates, and high Ca2+ concn. inhibits **amino acid** uptake, **nucleic acid** and protein **synthesis**, hormonal secretion, and protein release by intact parathyroid cells in vitro. Ca2+ has a direct effect on amino acid uptake and probably on hormonal secretion. Intracellular changes could be secondary to these effects at the cell surface. The neg. feedback control of parathyroid function by Ca2+ may be a special adaptation of the general effect of Ca2+ on transport across cell membranes.

L20 ANSWER 34 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1965:38463 CAPLUS
DN 62:38463
OREF 62:6809f-h
TI Trace elements and biochemistry of molecular N fixation and nitrate reduction in plants
AU Peive, J.
SO Agrokhimiya (1964), (7), 3-18
DT Journal
LA Russian
AB By increasing rate of metabolism trace elements are arranged as follows: Co++, Fe++, Cu++, Zn++, Mn++. From this it can be seen that Mn and Zn in their organo-mineral complexes have a greater mobility than Co and Cu. Metals such as Mo, Cu, Fe, Co, and Mn are directly bound to enzymes that catalyze the fixation of N2, redn. of nitrates, and **synthesis** of **amino acids**, **nucleic acid**, and proteins. Some enzymes may contain both Mo and Fe, and also Co and Cu. Cu, Mo, Mn, and Co participate in oxidn.-redn. reactions with a change in their valence (Cu2+ .dblarw. Cu1+; Mo5+ .dblarw. Mo6+; Mn2+ .dblarw. Mn3+; Co2+ .dblarw. Co3+). These elements by their participation in oxidn.-redn. reactions (fermentation) appear to be the direct agents for the transfer of electrons and H to N2 in the presence of FAD, NAD, and NADP. Data show the influence of Mo on the compn. of the leaves of clover, on the yield of clover, and protein content. Data are also given on the role of Mo, Cu, Fe, and Mn in metabolism, activity of dehydrogenase and nitrate reductase in tubers of legumes, activity of enzymes. Content of protein N in tubers of legumes, dynamics of free glutamic acid, aspartic acid, serine, glycine, asparagine, and alanine in the tubers of legumes, and the Krebs cycle were also studied.

L20 ANSWER 35 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1964:32884 CAPLUS
DN 60:32884
OREF 60:5901g-h
TI Incorporation factors, **amino acid** incorporation, and **nucleic acid synthesis**
AU Gale, E. F.
CS Univ. Cambridge, UK
SO Recent Progr. Microbiol., Symp., Intern. Congr. Microbiol., 7th, Stockholm (1959), Volume Date 1958 104-14
DT Journal
LA Unavailable
AB A review with 19 references. The nature of the early stages involved in the incorporation of amino acids by bacteria and the role of incorporation factors in **amino acid** incorporation and **nucleic acid synthesis** have been discussed.

L20 ANSWER 36 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1959:17556 CAPLUS
DN 53:17556
OREF 53:3319b
TI New factor involved in **amino acid** incorporation and **nucleic acid synthesis**
AU Gale, E. F.
CS Univ. Cambridge, UK
SO Rec. trav. chim. (1958), 77, 602-10
DT Journal
LA English
AB cf. C.A. 52, 6481e. The present situation concerning the activities of the previously described incorporation factor is summarized.

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L20 ANSWER 37 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1959:56994 CAPLUS
DN 53:56994
OREF 53:10367g-i
TI Role of **amino acids** in **nucleic acid synthesis** in Escherichia coli
AU Gros, F.; Gros-Doulcet, Francoise
CS Inst. Pasteur, Paris
SO Exptl. Cell Research (1958), 14, 104-31
DT Journal
LA French
AB cf. C.A. 51, 2940a. Amino acid auxotrophs of E. coli deprived of their required growth factor (phenylalanine, tryptophan, methionine, threonine, proline, or leucine) do not synthesize nucleic acids, as shown by chem. analysis or the incorporation of adenine-8-C14. Ribonucleic acid synthesis is restored by the addn. of the required amino acid, even in the presence of chloromycetin (I). Since I totally abolishes amino acid incorporation into proteins, it is suggested that the free amino acid plays a catalytic role in nucleic acid synthesis. In the absence of I, the required amino acid cannot effectively be replaced by analogs, e.g. phenylalanine by p-fluorophenylalanine or methionine by ethionine. In the presence of I, by contrast, the analogs are as effective in aiding nucleic acid synthesis as the related amino acids.

L20 ANSWER 38 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1957:13579 CAPLUS
DN 51:13579
OREF 51:2940a-c
TI Role of **amino acids** in the **synthesis** of **nucleic acids** in Escherichia coli
AU Gros, Francois; Gros, Francoise
CS Inst. Pasteur, Paris
SO Biochim. et Biophys. Acta (1956), 22, 200-1
DT Journal
LA French
AB The synthesis of nucleic acids by strains of E. coli requiring specific amino acids for growth was studied, in the presence and absence of chloromycetin (I), which inhibits protein synthesis. It was found that although the synthesis of protein is not requisite to **nucleic acid synthesis**, **amino acids** nonetheless play an important role in the latter. Thus, in every case investigated, the presence of the essential amino acid was necessary for a given E. coli strain to produce nucleic acid. By the use of radioactive essential amino acids, it was shown that these **amino acids** restored **nucleic acid synthesis** even though incorporation of amino acid into protein was severely reduced by I. Unlike the synthesis of ribonucleic acid (II), that of deoxyribonucleic acid was not reestablished when the essential amino acid was added to a washed suspension of cells after I, although it was when the cells were brought into contact with the amino acid first. II formed in the presence of I had all the characteristics of a specific II, not those of an atypical II.

L20 ANSWER 39 OF 39 CAPLUS COPYRIGHT 2003 ACS
AN 1954:71970 CAPLUS
DN 48:71970
OREF 48:12822b-f
TI Effect of **nucleic acids** on protein **synthesis** and **amino-acid** incorporation in disrupted staphylococcal cells
AU Gale, E. F.; Folkes, Joan P.
CS Univ. Cambridge, UK

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SO Nature (1954), 173, 1223-7
DT Journal
LA Unavailable
AB Nucleic acid (I) is removed from staphylococci following supersonic disintegration by extn. with 1 M NaCl and deoxyribonuclease. I-free cell fragments which have lost much of their ability to incorporate labeled glutamic acid and other amino acids into the protein fraction regain this ability with the addn. of the I-fraction or the ribo-I and deoxyribo-I fraction. The effect of I varies with the particular amino acid, indicating that isotopic studies for protein synthesis are not reliable. Catalase synthesis in I-free cell fragments is doubled by a mixt. of ribonucleic acid (RNA), adenosinetriphosphate (ATP), hexosediphosphate (HDP), and amino acids, while deoxyribonucleic acid (DNA) and purine-pyrimidine (II) mixts. have little or no effect. II inhibits the action of RNA and accelerates the action of DNA. .beta.-Galactosidase synthesis occurs only in the presence of a suitable inducer such as galactose. II mixts. with amino acids, ATP, and HDP increase the rate of synthesis of .beta.-galactosidase, while RNA and DNA have a negligible effect and actually inhibit the action of II. The synthesis of enzymes involved in the formation of acid from glucose is accelerated by II, RNA, and DNA to about the same extent. It appears that the disrupted cells can synthesize RNA from the II mixt. Penicillin inhibits the synthesis of .beta.-galactosidase, has only a slight effect on catalase synthesis and no effect on the acid-producing enzyme system synthesis. I plays a part in both the synthesis of proteins and the incorporation of labeled amino acids into preformed protein. The exptl. data appear to support the current hypothesis regarding the I role in protein synthesis.

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=> s l20 and polymerase
L21          39 S L20
         129674 POLYMERASE
L22           1 L21 AND POLYMERASE

=> d l22 bib abs
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L22 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 1997:679205 CAPLUS
DN 127:355960
TI Nucleic acid and amino acid sequences relating to Helicobacter pylori and vaccine compositions
IN Smith, Douglas; Alm, Richard A.
PA Astra AB, Swed.; Smith, Douglas; Alm, Richard A.
SO PCT Int. Appl., 1144 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9737044	A1	19971009	WO 1997-US5223	19970327
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, US, US, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2248985	AA	19971009	CA 1997-2248985	19970327
	AU 9725984	A1	19971022	AU 1997-25984	19970327
	AU 726892	B2	20001123		

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	ZA 9702715	A	19980625	ZA 1997-2715	19970327
	EP 901530	A1	19990317	EP 1997-917731	19970327
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1220703	A	19990623	CN 1997-195113	19970327
	BR 9708456	A	19990803	BR 1997-8456	19970327
	JP 2000501621	T2	20000215	JP 1997-529649	19970327
	NO 9804517	A	19981125	NO 1998-4517	19980928
PRAI	US 1996-625811	A2	19960329		
	US 1996-758731	A2	19960402		
	US 1996-736905	A2	19961025		
	US 1996-738859	A2	19961028		
	US 1996-761318	A2	19961206		
	WO 1997-US5223	W	19970327		

AB Recombinant or substantially pure prepns. of polypeptides and their encoding nucleic acids are described which may be useful for diagnostic and vaccine compns. for Helicobacter pylori infection. Thus, H. pylori chromosomal DNA was isolated by a std. DNA protocol, nebulized, purified, and sequenced using the multiplex DNA sequencing based on chem. degrdn. methods. A gene expression system, such as the pET-28b vector system, was selected for cloning and expression of recombinant protein in Escherichia coli. Selection of candidate protein antigens for vaccine development are derived from the nucleic acid sequences by analyzing the open reading frames (ORFs) for homol. to other known exported or membrane proteins and using discriminant anal. for predicting exported and membrane proteins. ORF amino acid sequences identified as exported or membrane-assocd. by the discriminant anal. algorithm are likely protein antigens for vaccine development. Thus, 546 nucleic acid sequences and their derived ORF amino acid sequences are provided. Gene knockout techniques using oligonucleotide primers for cloning, deletion, and targeting are also provided to identify nucleic acids that encode proteins essential for growth or viability, and thereby are preferred drug targets. Strain variation anal. provides nucleic acids, including probes, and peptide and polypeptide sequences that are common to all H. pylori strains but are not found in other bacterial species. Cloning, purifn, and characterization of the genes encoding peptidyl-prolyl cis-trans isomerase (ppi) and glutamate racemase (mirI) are described in detail as specific examples, and glutamate racemase activity can be applied in high throughput drug screening assays.

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L22 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS

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